INSTALLER'S INSTALLATION INSTRUCTIONS -Warnings-

This manual must be followed exactly.

The Rinnai Water Heater is not suitable for use in pool or spa applications.

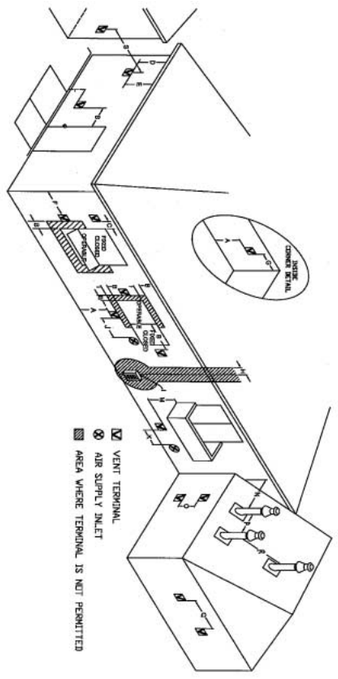
Installer must install a Pressure relief valve. Pipe pressure relief discharge to a drain or outside environment.

Maintain proper space around the unit for proper servicing and operation. Minimum clearances from combustible materials are listed below.

Top of Heater	6 inches
Back of Heater	0 inch
Front of Heater	6 inches
Sides of Heater	2 inches
Floor	12 inches
Vent/Air Intake	0 inch

RECOMMENDED VENT/AIR INTAKE TERMINAL POSITION

Terminals should be so positioned as to avoid products of combustion entering openings into buildings or other flues or vents.



INSTALLER'S INSTALLATION INSTRUCTIONS Locating the vent terminal

REF	DESCRIPTION	U.S. Installations	Canadian Installations
A	Clearance above grade, veranda, porch, deck, or balcony	1 foot	1 foot
B	Clearance to window or door that may be opened	**1 foot	1 foot
C	Clearance to permanently closed window	*	*
D	Vertical clearance to ventilated soffit, eaves or overhang	3 feet	3 feet
E	Clearance to unventilated soffit, eaves or overhang	3 feet	3 feet
F	Clearance to outside corner	1 foot	1 foot
G	Clearance to inside corner	2 feet	2 feet
H	Clearance to each side of center line extended above meter/regulator assembly	*	3 feet within a height 15 feet. above the meter/regulator assembly
I	Clearance to service regulator vent outlet	*	3 feet
J	Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliance	**1 foot	1 foot
K	Clearance to a forced air inlet into a building	3 feet	6 feet
L	Clearance above paved sidewalk or paved driveway located on public property	*	7 feet
M	Clearance under deck, veranda, porch, or balcony (open on 3 sides)	3 feet	3 feet
N	Vent Flue from wall (Flat or Pitched Roof)	2 feet	2 feet
O	Vertical between two terminals on the same wall above each other	5 feet	5 feet
P	Clearance between two vertical flue on the same plane	1 foot	1 foot
Q	Horizontal between two terminals on the same wall	1 foot	1 foot
R	Clearance between two Vertical flue on pitched roof above each other	5 feet	5 feet
S	Clearance from terminal facing a terminal	4 feet	4 feet

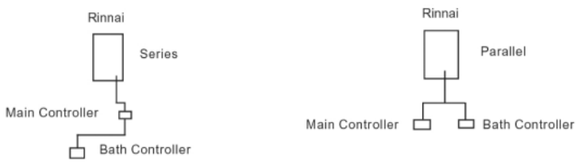
* For clearances not specified in ANSI Z223.1 / NFPA 54 or CAN/CGA-B149, please use clearances in accordance with local installation codes and the requirement of the gas supplier.
** 4 feet for units other than Direct-Vent Appliance.

INSTALLER'S INSTALLATION INSTRUCTIONS Remote Controllers- General

The remote controls for the Rinnai Water Heater allow the customer to control the functions of the water heater and to diagnose certain fault conditions.

Before installing the remote controllers, determine the most convenient location(s).
When deciding on the best location for the remote controllers, please consider the
following items:
1) Place the controllers out of reach of small children.
2) Avoid locations where the controller(s) will become hot. (over the stove, near the oven or a radiant heater.
3) Avoid direct sunlight. (The digital monitor can be difficult to read in direct sunlight)
4) Avoid areas where the remote can be splashed with cooking water, oil or sauce.
5) The remote controller cables carry low voltage, 12VDC digital.

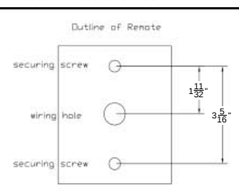
Every installation is different



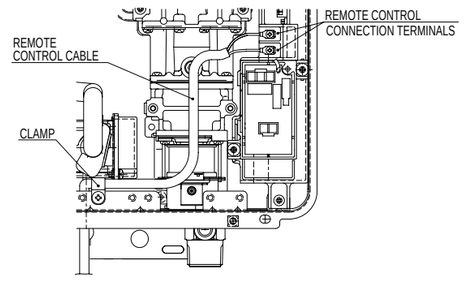
The controllers can be wired in series or in parallel depending on the distance from the Rinnai Water Heater to the controllers.

INSTALLER'S INSTALLATION INSTRUCTIONS Remote Controllers - Installation

1) Determine a suitable location for the controller.
2) Make three holes on the wall as shown.
3) Run the cable between the controller and the Rinnai Water Heater or the controller and the other controller.

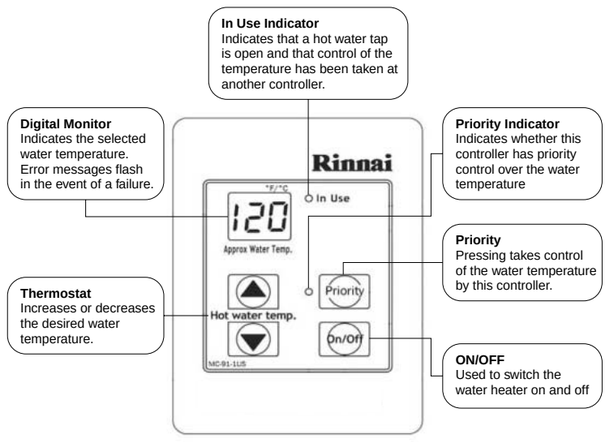


4) Remove the face plate from the remote controller.
5) Connect the cable to the remote controller.
6) Mount the controller to the wall using the holes drilled in step 2.
7) Disconnect the power from the Rinnai Water Heater.
8) Remove the cover of the Rinnai Water Heater.
9) Remove the plastic cover from the PCB and electrical connections.
DO NOT ATTEMPT TO CONNECT THE REMOTE CONTROLLERS WITH THE POWER ON, THERE'S 120 VOLT POTENTIAL, NEXT TO THE REMOTE CONTROLLER CONNECTIONS INSIDE THE UNIT. All service and wiring should be performed by a certified installer.



10) Thread the cable through the access hole at the base of the unit and connect the wires to the controller terminals on the right hand side bottom of the PCB.
11) Secure the controller cable using the clamp provided.
12) Replace plastic cover over PCB and then replace the front cover of the Rinnai Water Heater.

REMOTE CONTROLLER OPERATION


In Use Indicator
Indicates that a hot water tap is open and that control of the temperature has been taken at another controller.
Digital Monitor
Indicates the selected water temperature. Error messages flash in the event of a failure.
Priority Indicator
Indicates whether this controller has priority control over the water temperature
Rinnai
°F/°C
120
In Use
Approx Water Temp.
Priority
Priority
Pressing takes control of the water temperature by this controller.
Thermostat
Increases or decreases the desired water temperature.
Hot water temp.
On/Off
ON/OFF
Used to switch the water heater on and off
MC-91-1US

DIAGNOSTIC USE OF CONTROLLER
1. **To Display Maintenance Codes:** Press 'On/Off' button. To sequence through stored maintenance codes, press 'On/Off' followed by the ▲ thermostat button.
2. **To Display Water Flow through water heater:** Press ▲ thermostat button, hold for 2 seconds and simultaneously press 'On/Off' button.
3. **To display Outlet Water Temperature:** Press ▼ 'thermostat button', hold for 2 seconds and simultaneously press 'On/Off' button.

TO CHANGE TEMPERATURES FROM °F to °C
1. Press and hold 'On/Off' button for 5 seconds while water heater is OFF.
2. To change back from °C to °F, please repeat step 1.

MUTE
To eliminate the beeping sound, press and hold ▲ and ▼ button simultaneously until a 'beep' is heard (approximately 5 seconds).

GENERAL CONTROLLER INFORMATION

Temperature controllers allows precise temperature control by the user. When used correctly, the hot water unit will deliver the selected temperature, even when the water flow is varied, or more than one tap is in use. Each Temperature Controller can be individually programmed, however the water heater unit can only deliver one set temperature at any time. The available temperatures (°F) are as follows:
Temperature Table by Models

model	temperature																	
REU-V2532FFUD REU-V2532FFUCD(°F)	98	100	102	104	106	108	110	115	120	125	130	135	140	–	–	–		
REU-V2520FFUCD(°F)	–	–	–	–	–	–	–	–	120	125	130	135	140	150	160	185		
REU-V2532FFUCD(°F)	98	100	102	104	106	108	110	115	120	125	130	135	140	150	160	185		
Approx. temperature(°C)	37	38	39	40	41	42	43	46	49	52	54	57	60	66	71	85		

Suggested temperatures are:
Kitchen 120°F - 130°F, Shower 98°F - 110°F, Bath fill 102°F - 114°F
These temperatures are suggestions only. You may find higher or lower temperatures more comfortable. Maintaining lower temperatures helps save energy. To obtain water temperatures lower than 98°F, simply add cold water.
Deluxe Controllers are an optional extra. 'Controller' and 'Deluxe' Controllers can be installed together. Controllers allow temperature selection only. 'Deluxe' Controllers have temperature selection, bath fill and clock functions.
Controllers allow the water temperature to be set from the various locations where they are installed. The temperature selected will be available to all outlets. Below are the combination of Controllers that are offered by Rinnai:

Controllers Combination Pattern

	Remote and Deluxe Controllers						
1	MC-91-1US	+	—	+	—	+	—
2	MC-91-1US	+	MC-91-1US	+	—	+	—
3	MC-91-1US	+	MC-91-1US	+	MC-91-1US	+	—
4	MC-91-1US	+	MC-91-1US	+	MC-91-1US	+	**MC-91-1US
5	MC-91-1US	+	BC-100V	+	MC-100V	+	—
6	MC-91-1US	+	MC-91-1US	+	BC-100V	+	MC-100V

See controller manual in controller carton box for more infomation detail.

Water Smart / Bath Fill Temperature Table

	temperature											
water smart/ bath fill temperature (°F)	98	100	102	104	106	108	110	112	114	116	118	120
Approx. temperature (°C)	37	38	39	40	41	42	43	44	46	47	48	49

Water Smart / Bath Fill temperature cannot exceed 120°F for the following commercial models with no by-pass : REU-V2520FFUCD

Attention Installer! - Have You Checked Everything?
For full details - Always Refer to Rinnai Installation Instructions

☐ HOT (outlet) and COLD (inlet) water lines are not crossed to the unit and are leak free.

☐ You have installed isolating valves, unions, and drain down vales on the cold water inlet line and hot water outlet lines. (These components are used for servicing and/or removing the appliance quickly).

☐ COLD water inlet filter was cleaned after installation. (The filter MUST be cleaned after installing the unit)

☐ A pressure relief valve is installed and is rated for 200,000 Btu's at 150 PSI per local code.

☐ 120 VOLTS A.C. is connected to the unit, it is properly GROUNDED and circuit is turned on.

☐ Gas supply system is properly sized. All gas meters, regulators, gas line types, tanks, etc. have a BTU value. Please confirm that all components meet the gas requirements at this location. Verify the system is functioning correctly by connecting your manometer to the gas pressure test port on the Rinnai unit. Operate all gas appliances in the facility. The inlet gas pressure must not drop below that listed in the ownerís manual specification sheet or appliance rating plate.

☐ Proper gas type and pressure is supplied to the unit. (See owner's manual for correct inlet gas pressures in the specification section. Normal inlet gas pressures are 7" to 10" of water column for natural gas, and 11" to 13" of water column for propane gas).

☐ Gas supply pipe is purged of foreign material before connection.

☐ Proper model controllers are used, connected and functioning.

☐ Instructed the customer how to operate the Controllers.

☐ Verify proper clearances around the unit and all vents and air intakes. (See owner's manual for all clearance requirements.)

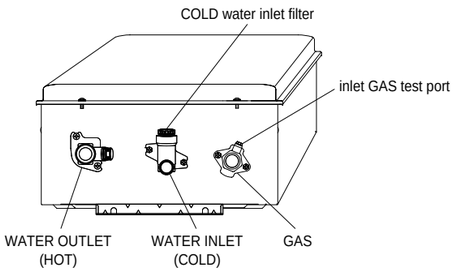
☐ Explained to the customer to never store anything around the vent terminals or block the air and/or exhaust ports to the unit.

For Internal models only

☐ Ensure you used the proper venting materials for the unit you have installed.

☐ The vent pipe has a negative slope/grade to the outside of three degrees (3°) or 5/8" per foot of vent pipe. If the vent pipe is sloped back towards the appliance as some code may require, provisions SHALL be made to collect all condensation to drain off and away from the appliance to a proper drain source. See local code for details.

☐ You have no more than three bends in your vent system and the length does not exceed Rinnai specifications.



GAS PRESSURE SETTING AND DIAGNOSTICS INFORMATION

NOTE: For additional installation and commissioning information refer to Operation / Installation Manual

WARNING

THIS APPLIANCE MUST BE INSTALLED, SERVICED AND REMOVED BY AN AUTHORISED PERSON DURING PRESSURE TESTING OF THE CONSUMER PIPING ENSURE GAS COCK SITUATED BEFORE UNIT IS SHUT-OFF. FAILURE TO DO SO MAY RESULT IN SERIOUS DAMAGE TO THE APPLIANCE AND POSSIBLE INJURY.

APPLIANCE OPERATING PRESSURES

Table 1.

	Water Inlet Min.	Gas Inlet Min./ Max.		Forced Low		Forced High	
		Nat.G	Prop.G	Nat.G	Prop.G	Nat.G	Prop.G
REU-V2532FFUD REU-V2532FFUCD REU-V2520FFUD REU-V2520FFUCD	150PSI	6"W.C. 10.5"W.C.	10"W.C. 13.5"W.C.	0.77"W.C.	0.93"W.C.	3.7"W.C.	4.2"W.C.

COMMISSIONING

With all gas appliances in operation at maximum gas rate, the flowing inlet pressure at the incoming test point on the Rinnai Water Heater should read 6"W.C. - 10.5"W.C. on Natural Gas and 10"W.C. - 13.5"W.C. on Propane Gas. If the pressure is lower, the gas supply is inadequate and the appliance unit will not operate to specification. Check gas meter, regulator and pipework for correct operation/sizing and rectify as required.

GAS PRESSURE SETTING

(Ensure gas pressure check under Commissioning above has been completed first !)
The regulator is electronically controlled and factory pre-set. **Under normal circumstances it does not require adjustment during installation. Make adjustments only if the unit is not operating correctly and all other possible causes for incorrect operation have been eliminated.**

1. Turn 'OFF' the gas supply.
2. Turn 'OFF' 120V power supply.
3. Remove the front cover from the appliance.
4. Check gas type switches (Fig.1) are in the correct position (dip switch 1 of SW2 'ON' = NG, 'OFF' = LPG)

Note: 'ON' towards front, 'OFF' towards rear.

5. Attach pressure gauge to burner test point, located on the gas control. (Fig.2).
6. Turn 'ON' the gas supply.
7. Turn 'ON' 120V power supply.
8. If remote controllers are fitted, turn the unit 'ON' at the kitchen controller, select the maximum delivery temperature and open all available hot water taps full including the shower.
(**CAUTION:** Ensure building occupants do not have access to hot water outlets during this procedure).
9. Set the Infinity to 'Forced Low' combustion by setting No.7 dip switch of the (SW1) set of dip switches to 'ON'.(Fig.3).
10. Check the burner test point pressure.
11. Remove rubber access plug and adjust the regulator screw on the modulating valve (Fig.4) as required in Table 1. Replace rubber access plug.
12. Set the Rinnai Water Heater to 'Forced High' combustion by setting both No. 7 and No. 8 dip switches of the bottom (SW1) set to 'ON'. (Fig.5). **Ensure maximum water flow !**
13. Check the burner test point pressure.
14. Adjust the high pressure Potentiometer (POT) on the Printed Circuit Board (PCB) as required to the pressure shown in Table 1.

IMPORTANT: Set dip switches 7 and 8 on the bottom (SW1) to 'OFF' to return the appliance to 'Normal' combustion. (Fig. 6).

15. Close hot water tap.
16. Turn 'OFF' the gas supply and 120V power supply.
17. Remove pressure gauge & replacing sealing screw.
18. Turn 'ON' the gas supply and 120V power supply.
19. Operate unit and check for gas leaks at test point.
20. Replace the front cover of the appliance.

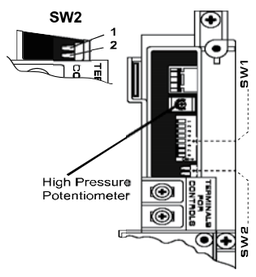


Fig. 1

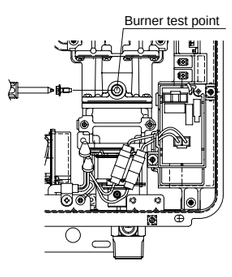


Fig. 2

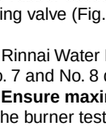


Fig. 3

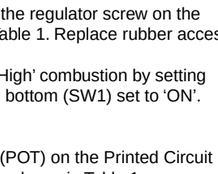


Fig. 4

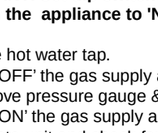


Fig. 5

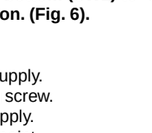
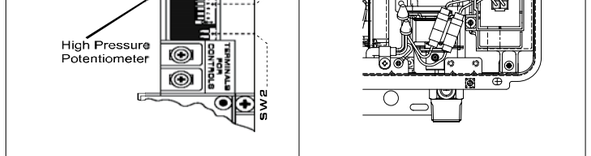


Fig. 6

Rinnai Water Heaters Dip Switch Default Settings

The settings below are factory default settings. Please ensure the model number and gas type of the unit you have, matches the model number and gas type listed below; before settings any switches. If you need assistance, contact Rinnai at (800)621-9419 before proceeding.



OFF/ON
1 2 3 4 5 6 7 8
← Vent/air intake piping length

See Owner's manual for more in informd detail.

WARNING
In appropriate Dip Switch setting can damage the Rinnai water heater and may void the warranty of this unit

Code Displayed	Fault	Items to Inspect
00	When checking maintenance code history, "00" is substituted for "LC"	Build up of lime scale in heat exchanger - needs to be flushed.
02	No burner operation during freeze protection mode	Verify that gas supply is turned on to the water heater and valve at meter or tank is open. Verify proper gas type and supply pressure. Bleed air from gas line. Verify all ignition component/wires are connected.
03	Power interruption during Water Smart/Bath Fill (Hot water will not flow when power returns)	Turn off all hot water taps. Press ON/OFF twice.
10	Air intake supply or exhaust blockage	Check for a restriction in exhaust or intake vent, verify proper dip switch settings. Ensure only Rinnai approved venting components are used.
11	No Ignition	Verify that gas supply is turned on to the water heater and at meter or tank. Verify proper gas type and supply pressure. Bleed air from gas line. Verify all ignition component/wires are connected.
12	Flame Failure, poor ground connection	Make sure gas is turned on at the water heater; check for obstructions in exhaust vent. Ensure only Rinnai approved venting components are used. Verify proper grounding. Check for debris or moisture in burner area.
14	Thermal Fuse	Ensure high and low fire manifold gas pressures are properly set. Verify dip switch settings are correct. Measure resistance in ohms of safety circuit.
16	Over Temperature Warning	Verify dip switch settings, check manifold pressure and verify gas type for water heater. Check for clogged heat exchanger. Check for low water flow in a circulating system causing short-cycling.
32	Outlet water temperature sensor reading out of expected range	Check outlet temperature sensor or wiring for damage. Measure resistance of sensor. Clean sensor of scale build - up.
33	Heat exchanger outlet water temperature faulty	Check H.E. outlet sensor or wiring. Measure resistance of sensor. Clean sensor of scale build-up
34	(Indoor Units Only) Combustion air sensor reading out of expected range	Sensor or wiring faulty. Verify fan blade is mounted securely to shaft. Check for airflow restrictions in venting system.
52	Modulating Solenoid Valve signal abnormal	Check gas control wiring harness and measure resistance of valve coil in ohms.
61	Combustion Fan Failure	Combustion fan or wiring harness faulty. Make sure motor/fan turns freely. Measure resistance of motor winding.
65	Water Flow Servo Faulty (Does not stop flow properly)	Water Flow Servo or wiring faulty. Check Water Flow Servo wiring harness conection. Measure resistance of Water Flow Servo wiring.
71	SV0, SV1, SV2 or SV3 Solenoid Valve Circuit Faulty	Check all gas solenoid wiring harness and connections. Measure resistance of each solenoid valve coil.
72	Flame Sensing Device Faulty	Check flame rod and wiring harness connections. Measure micro amp output of sensor circuit with flame present. Clean flame sensor of any build-up. Check for debris in burner chamber that may block flame from sensor.
LC	Scale build-up in Heat Exchanger	Build up of lime scale in heat exchanger ñ needs to be flushed.
No code or blank display	Nothing happens when water flows through water heater.	Clean inlet filter screen and ensure you have at least the minimum flow rate required to fire unit. Check for pipe dope inside water flow control turbine. On new installations, ensure hot and cold water lines are not crossed. Check for bleed over. Isolate unit from building by turning off hot water line to building. Then open your pressure relief valve, if unit fires, thereís a bleed over in your plumbing. If a circulating system is in use, it must be isolated also. Remote control does not light up but you have 12 VDC at the terminals for controls: Disconnect water flow control motor, then turn on hot water, if unit fires replace water flow control assembly.

SERVICEMAN'S TROUBLESHOOTING INFORMATION for the RINNAI WATER HEATERS

IMPORTANT SAFETY NOTES:
There are a number of (live) tests that are required when fault finding this product. Extreme care should be used at all times to avoid contact with energized components inside the water heater. **Only trained and qualified service agencies should attempt to repair this product.** Remember, before checking for resistance readings, you should disconnect the power source to the unit and isolate the item to be checked from the circuit (unplug it).

(TR) Transformer:

Wire color	Voltage	Resistance	Connector #	Pin #'s
Black ~ White	90 ~ 100 VAC	51 ~ 63 ohms	F9	1 ~ 2
Blue ~ Brown	108 ~ 132 VAC	51 ~ 63 ohms	F7	1 ~ 3

(SV1, SV2, SV3 and POV) Gas valve and Modulating solenoids: (Set meter above 2K)

(Main) Pink ~ Black	80 ~ 100 VDC	1.7K ~ 2K ohms	E1	1 ~ 2
(SV1) Black ~ Yellow	80 ~ 100 VDC	1.7K ~ 2K ohms	E2	2 ~ 3
(SV2) Black ~ Blue	80 ~ 100 VDC	1.7K ~ 2K ohms	E3	2 ~ 4
(SV3) Black ~ Brown	80 ~ 100 VDC	1.7K ~ 2K ohms	E4	2 ~ 5
(POV) Pink ~ Pink	2 ~ 15 VDC	67 ~ 81 ohms	C2	3 ~ 4

(M) Water Flow Control Device Servo or Geared Motor:

Red ~ Blue	11 ~ 13 VDC	22 ~ 26 ohms	B2	9 ~ 10
Grey ~ Brown	4 ~ 6 VDC	N / A	B2	5 ~ 7
Grey ~ Yellow	N / A	N / A	B2	5 ~ 8
Grey ~ Orange	11 ~ 14 VDC	N / A	B2	5 ~ 6

NOTE: The grey wire listed above turns to black at B connector on the PCB, the orange wire turns to red.

(QS) Water Flow Sensor:

Black ~ Red	11 ~ 13 VDC	5.5K ~ 6.2K	B4	5 ~ 6
Yellow ~ Black	4 ~ 7 VDC	1 meg ~ 1.4 meg	B4	1 ~ 5

By-pass Flow Control: (REU-V2532FFU/FFUC ONLY)

Brown ~ White Orange ~ White	2 ~ 6 VDC	Unit in operating mode	G4 ~ G5 G2 ~ G5	4 ~ 5 2 ~ 5
Yellow ~ White Red ~ White/ Ground		15 ~ 35K	G1 ~ G5 G3 ~ G5	1 ~ 5 3 ~ 5

(IG) Ignition System:

Grey ~ Grey	90 ~ 100 VAC	N/A	A1	1 ~ 2

(FM) Combustion Fan Motor:

Red ~ Black	6 ~ 45 VDC	N/A	A1	1 ~ 2
White ~ Black	5 ~ 10 VDC	9.2K ~ 9.4K	A1	2 ~ 4
Yellow ~ Black	11 ~ 13 VDC	3.5K ~ 3.9K	A1	2 ~ 3

Set your meter to the hertz scale. Reading across the red and yellow wires at terminals 2 and 3 you should read between 60 and 350 hertz.

Thermal Fuse:

Red ~ Red	12 VDC	Below 1 ohm	B ~ C	B6 ~ C1

Overheat Switch:

Red ~ Red	12 VDC	Below 1 ohm	B ~ C	B6 ~ C1

Flame Rod:
Place one lead of your meter to the flame rod and the other to earth or ground. With the unit running you should read between 5 ~ 150 VAC. Set your meter to the µ amp scale, series your meter in line with the flame rod. You should read 1µ or greater for proper flame circuit. In the event of low flame circuit remove the flame rod and check for carbon and/or damage.

Heat Exchanger, Air Temperature, and Outgoing Water Temperature Thermistors:
Check all thermistors by inserting meter leads into each end of the thermistor plug. Set your meter to the 20K scale and read resistance. You should be able to apply heat to the thermistor bulb and see the resistance decrease. Then apply some ice to the thermistor and the resistance should increase. See below for examples of temperatures and resistance reading at those temperatures.

Example: 59°F = 11.4 ~ 14K
86°F = 6.4 ~ 7.8K
113°F = 3.6 ~ 4.5K
140°F = 2.2 ~ 2.7K
221°F = 0.6 ~ 0.8K

Outgoing Water Thermistor:

White ~ White	N/A	See example above	B	B3 ~ B4

Heat Exchanger Temperature Thermistor:

White ~ White	N/A	See example above	B	B3 ~ B12

Surge Protector:

Black ~ White	108 ~ 132 VAC	N/A	Surge Protector D_1	1 ~ 3
Blue ~ Brown	108 ~ 132 VAC	N/A	Surge Protector D_2	1 ~ 2

With the power off you can check the continuity through the surge protector. Place one meter lead on the top pin #1 of the surge protector and pin #2 on the bottom of the surge protector. Then check across top pin #3 and bottom pin #1, if you read continuity across these two points the surge protector is good. If you do not get continuity, replace the surge protector.

Remote Controls:

Terminals D_1, D_2	10 ~ 13 VDC digital	1.5K ~ 1.9K ohms	H	1 ~ 3

Frost Protection:
This unit has four frost protection heaters mounted at different points inside the unit, to protect the water heater from freeze ups. There are two heaters located on the outlet hot water line next to the thermistor.
Using a voltage meter set on the 200 ohm scale, you should have a resistance reading of 26 ~ 30 ohms through each of these heaters. The heater located on the heat exchanger piping should have a resistance reading of 81 ~ 86 ohms and the one located in the water flow sensor valve has a resistance reading of 16 ~ 19 ohms. Voltage throughout this circuit should be 120 VAC.

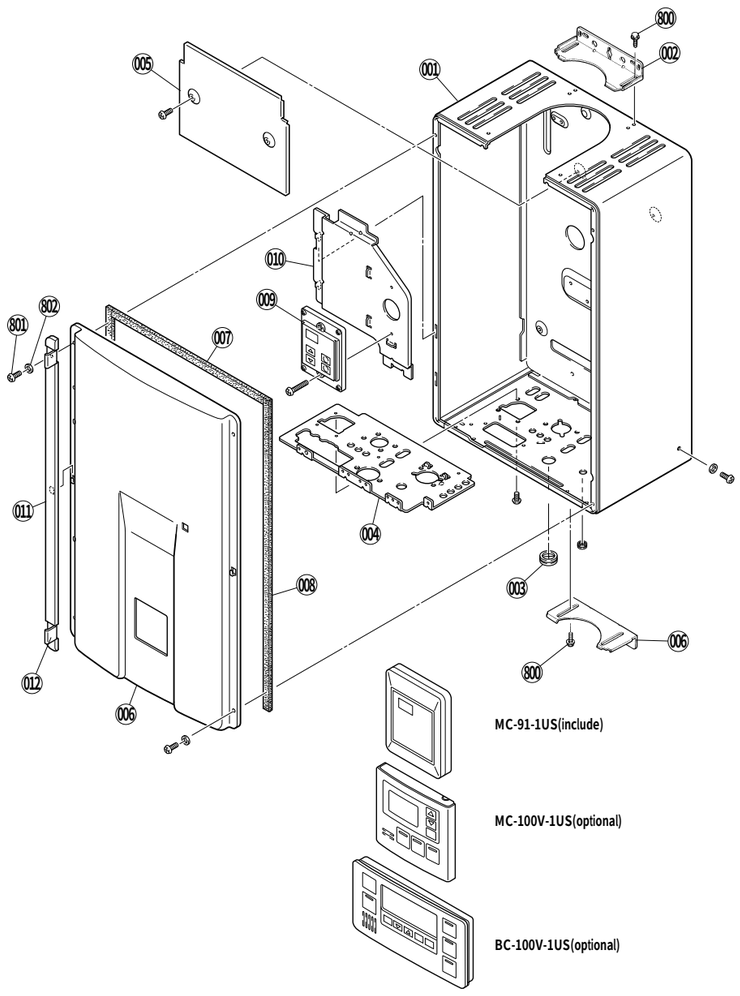
Amp Fuses:
This unit has two inline (3) amp glass fuses. Remove the fuse and check continuity through it. If you have Continuity through the fuse, it is good. If you can not read continuity, the fuse is blown and must be replaced.

070 00012 31445 7

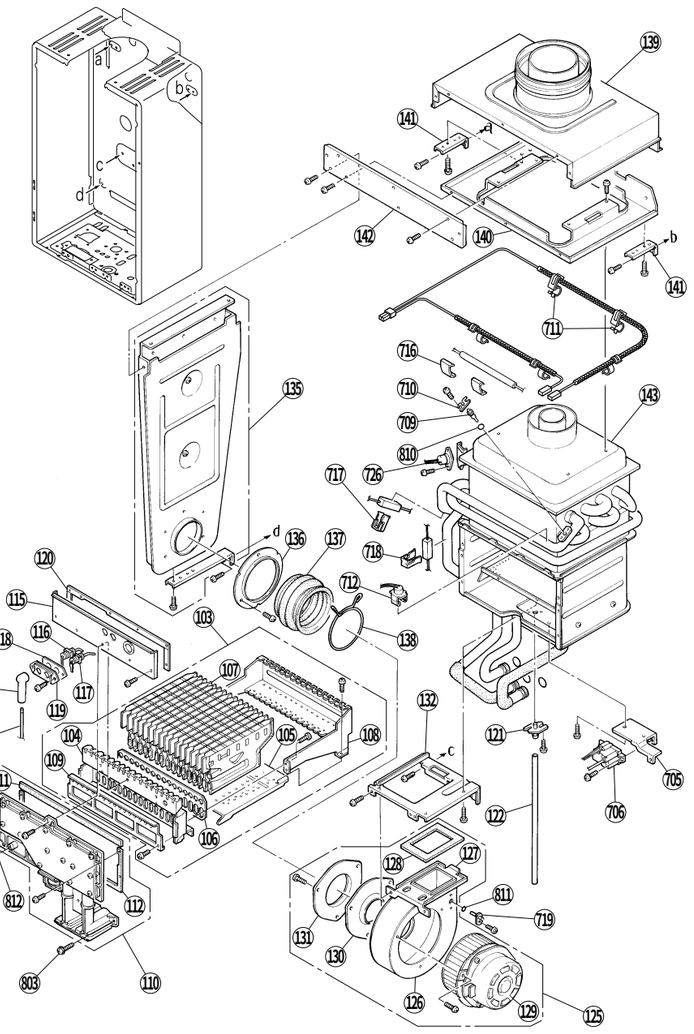
REU-V2532FFUD-US
REU-V2532FFUCD-US
REU-V2520FFUD-US
REU-V2520FFUCD-US

U245-3245 (00)

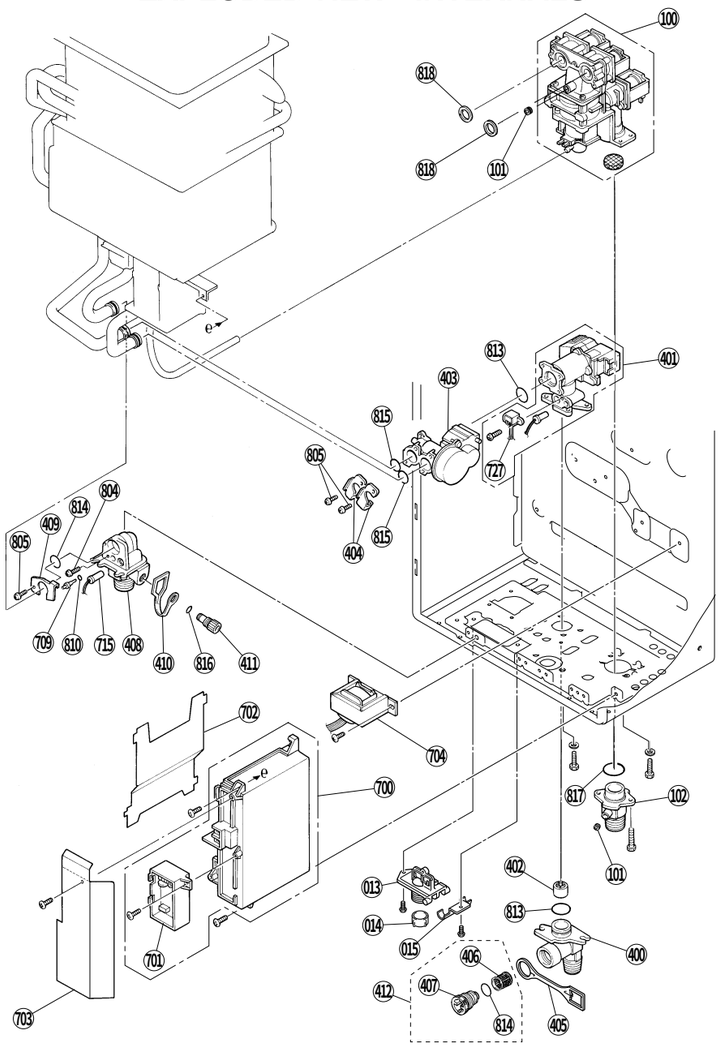
EXPLODED VIEW - CABINET



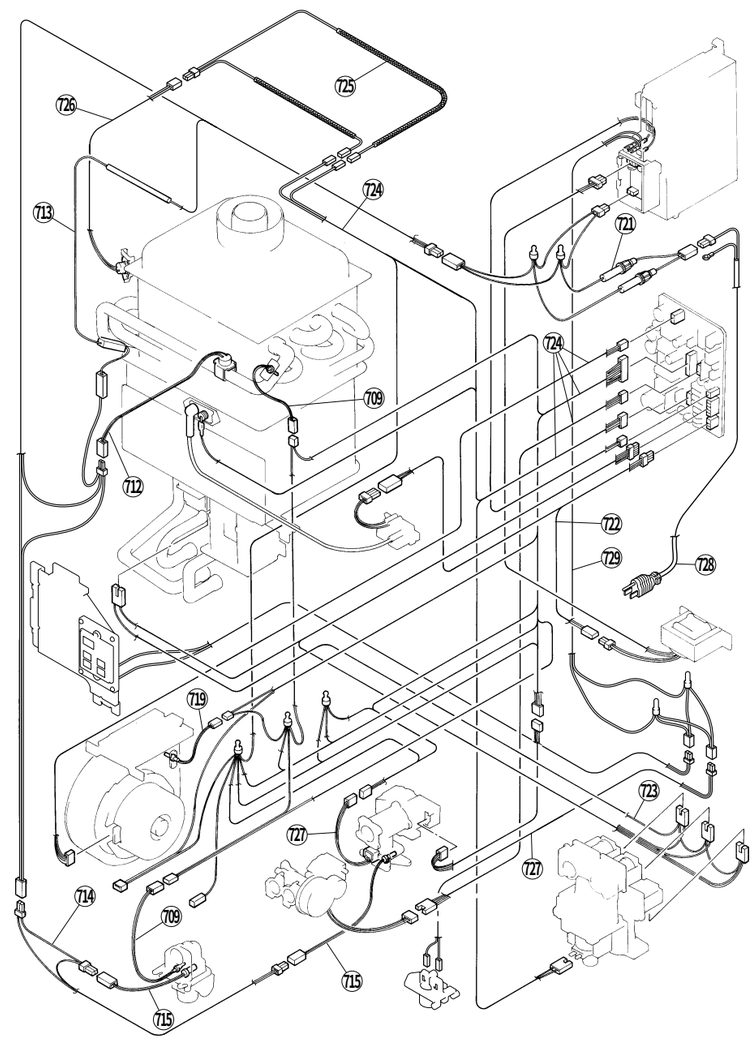
EXPLODED VIEW - INTERNALS



EXPLODED VIEW - INTERNALS



EXPLODED VIEW - ELECTRICAL



PARTS LIST

Number	Description	Part Number	Quantity V2532FFUD/FFUCD	Quantity V2520FFUD/FFUCD
001	Casing Assembly (Residential model)	U245-3150-1	1	1
001	Casing Assembly (Commercial model)	U245-3150-2	1	1
002	Wall Fitting Bracket-8 (Residential model)	U242-111-11	1	1
002	Wall Fitting Bracket-9 (Commercial model)	U242-111-9	1	1
003	Rubber Bushing	CF79-41020-A	1	1
004	Connection Reinforcement Panel	U245-3160	1	1
005	Heat Protection Plate	U245-107	1	1
006	Front Panel (Residential model)	U245-3110-3	1	1
006	Front Panel (commercial model)	U245-3110-4	1	1
007	Front Panel Packing	U245-3118-2	1	1
008	Front Panel Packing Side	U245-3118-1	2	2
009	Remote Controller	MC-91-1US-S-FL	1	1
010	Remote Controller Support Plate	U245-3134	1	1
011	Side Panel	U245-3121	2	2
012	Side Panel Cap	U245-3122	4	4
013	Quick Controller Connection	AH59-772	1	1
014	Cable Seal Packing	AU169-126	1	1
015	Connection Support Clip	AH59-772	1	1
100	Gas Control Assembly	C36E-41-S	1	1
101	Screw	AU39-965	2	2
102	Gas Connection (3/4""NPT)	CU195-1866	1	1
103	Burner Unit Assembly	H73-110	1	1
104	Burner Case Front	CH51-209	1	1
105	Burner Case Bottom Panel	H73-112	1	1
106	Packing	BH51-218	1	1
107	Lean and Rich Bunsen Burner Assembly	B3A7-1	16	16
108	Burner Case Back Panel	CH51-221	1	1
109	Damper	H73-115	1	1
110	Manifold Assembly -A (LPG)	U245-200-A	1	1
110	Manifold Assembly -B (Nat.G)	U245-200-B	1	1
111	Paking of Combustion Chamber	AU155-207-2	1	1
112	Lower Packing of Combustion Chamber	H73-214	1	1
113	Screw	C10D-5	1	1
114	Combustion Chamber Front Plate Assembly	U245-260	1	1
115	Combustion Chamber Front Plate	U245-261	1	1
116	Electrode	H73-120	1	1
117	Flame Rod	AH41-216	1	1
118	Electrode Packing	AH66-398	1	1
119	Electrode Holder	AH66-393	1	1
120	Upper Packing of Combustion Chamber	U245-262	1	1
121	Tube Joint	U242-312	1	1
122	Pressure Tube	AU161-665-C	1	1
125	Blower Motor All Assembly	U245-550	1	1
126	Fan casing Assembly	U245-555	1	1
127	Fan Connecting Bracket	BH29-606	1	1
128	Fan Connecting Packing	AU183-562	1	1
129	Blower Motor	U245-560	1	1

Number	Description	Part Number	Quantity V2532FFUD/FFUCD	Quantity V2520FFUD/FFUCD
130	Bell Mouth	U245-558	1	1
131	Bellows Connecting Bracket/Intake Duct	U245-566	1	1
132	Combustion Chamber Bracket	U245-255	1	1
135	Air Inlet Box Assembly	U245-400	1	1
136	Bellows Connecting Bracket/Fan	U245-408	1	1
137	Bellows	U245-409	1	1
138	Bellows Clamping Ring	U245-567	1	1
139	Air Inlet Box Assembly	U245-410	1	1
140	Exhaust Bracket	U245-434	1	1
141	Exhaust Bracket Holder	U245-435	2	2
142	Air Inlet Box Cover	U245-419	1	1
145	Heat Exchanger Complete Assembly	U245-690	1	-
145	Heat Exchanger Complete Assembly	U245-2240	-	1
400	Water Inlet (3/4""NPT)	H73-501-2	1	1
401	Water Flow Servo & Sensor Assembly	M8E-15	1	-
401	Water Flow Servo & Sensor Assembly	M8E-14	-	1
402	Rectifier	M8D1-15	1	1
403	By-pass Servo Assembly	M6J-1-3	1	-
404	Stop Bracket	AH69-310	2	-
404	Stop Bracket	AU195-321	-	1
405	Plug Band	H73-512	1	1
406	Water Filter Assembly	H98-511	1	1
407	Filter Plug	H98-510	1	1
408	Hot Water Outlet (3/4""NPT)	U245-865-3	1	1
409	Stop Bracket	AU162-1876	1	1
410	Plug Band Small	AU103-413	1	1
411	Drain Valve	AU142-444	1	1
412	Water Filter All Assembly	H98-510-S	1	1
700	PCB	U245-500	1	-
700	PCB	U245-2260	-	1
701	Surge Protector	BBF9-630	1	1
702	PCB Cover-Side	U245-774	1	1
703	PCB Cover-Front	BU168-707	1	1
704	Transformer Assembly	ET-281	1	1
705	PCB Bracket	U245-257	1	1
706	Ignitor	EI-189	1	1
707	High Tension Cord	BH38-710-240	1	1
708	Electrode Sleeve	AU206-218	1	1
709	Thermistor	BH45-650	1	2
710	Thermistor Clip Large	CP-90172	1	1
711	Thermal Fuse Clip	U217-676	5	5
712	Frost Sensing Switch	U242-511	1	1
713	120V Anti-Frost Heater Assembly	U245-620	1	1
714	Heater Connecting Harness	U245-621	1	1
715	120V Valve Heater Assembly	U245-622	1	1
716	Anti-Frost Heater Clip	CF29-742	2	2
717	Anti-Frost Heater Clip A	AU111-653	1	1
718	Anti-Frost Heater Clip	AU100-721	1	1

Number	Description	Part Number	Quantity V2532FFUD/FFUCD	Quantity V2520FFUD/FFUCD
719	Inlet Air Thermistor	BH50-730-2	1	1
721	Fuse Harness	BU195-1630	1	1
722	100V Harness	U245-601	1	1
723	Solenoid Valve Harness	U245-602	1	1
724	Sensor Harness	U245-603-6	1	1
724	Sensor Harness	U245-603-9	1	1
725	Thermal Fuse Harness	U245-3190	1	1
726	Mold-Type Over Heat Switch	BU129-821-2	1	1
727	Remote Controller Harness	U245-3173	1	1
728	Power Surprise Cable		1	1
729	Remote Controller Cable	U242-780	1	1
800	Screw	ZIHD0510UK	8	8
801	Screw	CP-30580	4	4
802	Washer	CF83-41430	4	4
803	Screw	CP-21478-412	3	3
804	Screw	U217-449	1	1
805	Screw	ZAA0408UK	3	2
810	O-ring	M10B-2-4	2	2
811	O-ring	M10B-2-3	1	1
812	O-ring	M10B-13-4	1	1
813	O-ring	M10B-2-18	2	1
814	O-ring	M10B-2-16	2	2
815	O-ring	M10B-2-14	2	1
816	O-ring	M10B-2-7	1	1
817	O-ring	M10B-1-24	1	1
818	Packing	C36E1-6	2	2
888	Owner's Manual	U245-2602	1	1
-	Package Spec Sheet	PWB-261	1	1
-	Manual 3/4"" gas control valve	BU195-1865	1	1
-	Remote Controller (include)	MC-91-1US	1	1
-	Deluxe Controller (optional)	MC-100V-1US	1	1
-	Deluxe Bathroom Controller (optional)	BC-100V-1US	1	1
-	Horizontal Discharge Adapter	50710327	-	-
-	Wall Discharge Terminal (for wall thicknesses from 4"" to 20"")	50223098B	-	-
-	Vertical Discharge Adapter	224064	-	-
-	Roof Discharge Terminal	184118	-	-
-	Condensate Collector	224069	-	-
-	Roof Flashing - Flat Roof	146141	-	-
-	Roof Flashing - 1/12 to 6/12 Pitch	50171948	-	-
-	Roof Flashing - 6/12 to 12/12 Pitch	50171960	-	-
-	Roof Flashing - 12/12 to 16/12 Pitch	50171953	-	-
-	10"" Pipe Extension	224051	-	-
-	19.5"" Pipe Extension	224052	-	-
-	39"" Pipe Extension	224053	-	-
-	90 Degree Vent Pipe Elbow	224063	-	-
-	45 Degree Vent Pipe Elbow	224050	-	-
-	Vent Pipe Clamp	169044	-	-